

Curriculum Vitae



Ronald R. Hugate Jr., MD, FAAOS
Board Certified Orthopedic Surgeon

**Colorado Limb Consultants, and
The Denver Clinic for Extremities at Risk**

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Orthopedic Oncology
Complex Joint Replacement and Reconstruction
Bone Healing
Hip Preservation

Education:

- Bachelor of Science** 1994 Mechanical Engineering (*magna cum laude*)
Virginia Polytechnic Institute and State University, Blacksburg, VA
- Medical Doctor** 1998 Doctor of Medicine
Eastern Virginia Medical School, Norfolk, VA
- Internship** 1998-99 Surgical Internship
Milton S. Hershey Medical Center, Pennsylvania State University College of Medicine, Hershey, PA
- Residency** 1999-2003 Orthopedic Surgery
Department of Orthopaedics & Rehabilitation, Pennsylvania State University College of Medicine, Hershey, PA
- Fellowship** 2003-2004 Ivins Research Fellow
The Mayo Clinic, Rochester, MN
- Fellowship** 2004-2005 Orthopaedic Oncology Fellowship
The Mayo Clinic, Rochester, MN
- Academic Rank** Instructor of Orthopaedics
The Mayo Clinic, Rochester, MN

Military Service:

United States Army Reserve

- Medical Corps. 1998 - present
Home Unit: 5502nd U.S. Army Hospital. Denver, Colorado.
Rank: Lieutenant Colonel
Deployments to date:
 - 2003 Baghdad, Iraq (28th combat surgical hospital) Operation Iraqi Freedom
 - 2005 Tripler Army Medical Center
 - 2008 Tripler Army Medical Center
 - 2010 Sharana, Afghanistan (934th forward surgical hospital) Operation Enduring Freedom

Virginia Army Reserve/ National Guard

- Medical Service Corps. Virginia Beach, VA. March 1994 –June 1998
Rank: First Lieutenant

Army Commendation Medal, December 2003

- Awarded by the U.S. Army for service as an orthopaedic surgeon in support of Operation Iraqi Freedom. 28th Combat Surgical Hospital. Baghdad, Iraq.

Army Commendation Medal, March 2011

Awarded by the U.S. Army for service as an orthopaedic surgeon in support of Operation Enduring Freedom. 936th Forward Surgical Team. Sharana, Afghanistan.

Medical Licensure:

State of Colorado, active

State of Minnesota, expired 4/2006

State of Pennsylvania, expired 12/2004

United States DEA License, active

Professional Certifications:

American Board of Orthopedic Surgery (ABOS) July 2007

AO/ASIF Principles of Fracture Management

Professional Affiliations:

The Franklin H. Sim Society (Founding Member) 2010 - present

The Ivins Society (Mayo Clinic Orthopaedic Oncology Fellows). 2005 – Present

The Society of Military Orthopedic Surgeons (SOMOS). 2000 – Present

The Colorado Orthopedic Society (2005-present)

The Denver Clinic for Extremities at Risk. 2005 - Present

The Mayo Fellows' Association, 2003 - Present

The American Academy of Orthopedic Surgeons, 1998 - Present

The American Medical Association, 1994-2010

The Pennsylvania Orthopaedic Society, 1998-2003

The American Society of Mechanical Engineers, 1992-1994

Administrative Positions:

Chairman, Department of Orthopedics
Presbyterian/St. Luke's Medical Center
Denver, Colorado

June 2010 – Present
Physician Member
The Denver Clinic for Extremities at Risk
Denver, Colorado
2007 – Present

President
Innovative Orthopedics, LLC
Denver, Colorado
2007 - Present

Founding Board Member
Ortho-Transmission, LLC
Denver, Colorado
2010 - Present

Vice-Chairman, Department of Orthopedics
Presbyterian/St. Luke's Medical Center
Denver, Colorado
June 2008 - June 2010

Medical Director
Parker Hospital Joint Replacement Program
Parker, Colorado
2007 - 2008

Guest Editor
Clinical Orthopedics and Related Research
2005- Present

Clinical Consulting:

Design Project Consultant and Surgeon Educator
Zimmer Corporation (Warsaw, Indiana)
Surgeon to Surgeon Education
Development of Trabecular metal as a medium for soft tissue attachments
2010 to present

Clinical Design Consultant
Wright Medical Corporation (Memphis, Tennessee)
Design/Development of implants
2007 – Present

Clinical Design Consultant
Stryker Corporation (Mahwah, New Jersey)
Design/Development of canine osseous integration implants
2006-2007

Research Interests:

- Advancement of bio-integrated implants
- Orthopedic implant design
- Medical and surgical treatment of osteogenic sarcoma
- Pelvic/sacral reconstruction
- Complex joint replacement techniques

Medical Relief Work:

- Haiti Surgical Earthquake Relief mission. Medical Missionaries. Jan-Feb 2010.
- Honduras Surgical Relief Mission. Medical Ministries International. Sept 2001.

Research Funding:

- Fixed angle Screws versus Standard Screws in Hemispherical Acetabular Fixation: A Biomechanical Study. Mayo Clinic Orthopaedic Research Grant. May 2004.
- The Biomechanical Consequences of Partial Transverse Sacrectomy: When is Reconstruction Necessary? Mayo Clinic Orthopaedic Research Grant. May 2004.
- Allograft Prosthetic Composite Reconstruction of the Proximal Tibia versus Proximal Tibial Reconstruction with Endoprosthesis: A Pilot Study to Define the Key Variables of Quadriceps Strength and Function. Mayo Clinic Department of Orthopaedic Surgery, Musculoskeletal Tumor Foundation Grant, January 2004.
- The Effects of Intratendinous and Peritendinous Corticosteroid Injections on the Biomechanical Properties of Rabbit Achilles Tendon. Pennsylvania State University College of Medicine Department of Orthopaedics and Rehabilitation, Orthopaedic Research Initiation Grant, July 2001.
- Design of an Automated Needle/Armature Tray Loader. Department of Mechanical Engineering, Virginia Polytechnic Institute and State University. Siemens Corporation Automotive Division Research Grant, September 1993.

Books Authored:

Hugate RR and Holland RD: *The Handbook of Hip and Knee Replacement: Through the Eyes of the patient, Surgeon, and Medical Team!* Projected date of publish August 2011.

Academic Publications:

1. Hugate RR; Dickey ID; Chen Q; Wood C; Sim FH; Rock MG: Fixed-Angle Screws vs. Standard Screws in Acetabular Prosthesis Fixation: A Cadaveric Biomechanical Study. *The Journal of Arthroplasty*. 2009; 24(5):806-814.
2. Hugate RR; Wilkins RM; Kelly CM; Madsen W; Hinshaw I; Camozzi AB: Intra-arterial Chemotherapy for Extremity Osteosarcoma and MFH in Adults. *Clin Orthop Relat Res*. 2008. Jun; 466(6): 1292-301.
3. Drygus KA; Taylor RV; Sidebotham CG; Hugate RR; McAlexander H: Transcutaneous Tibial Implants: A Surgical Procedure for Restoring Ambulation after Amputation of the Distal Aspect of the Tibia in a Dog. *Vet Surg* 37:322-327, 2008.
4. Damron TA; Leerapun T; Hugate RR; Shives TC; Sim FH: Does the Second Generation Intercalary Humeral Spacer Improve on the First? *Clin Orthop Relat Res*. 2008 Jun; 466(6):1309-17.
5. Leerapun T; Hugate RR; Inwards CY; Sculley SP; Sim FH: Surgical Management of Conventional Grade I Chondrosarcoma of Long bones. *Clin Orthop Relat Res*. 2007. Oct; 463: 166-72.
6. Pradhan A; Cheung YC; Grimer RJ; Abudu A; Peake D; Ferguson PC; Griffin AM; Wunder JS; O'sullivan B; Hugate RR; Sim FH: Does the Method of Treatment Effect the Outcome in Soft Tissue Sarcomas of the Adductor Compartment? *J Bone Joint Surg Br*. 2006 Nov; 88(11): 1480-6.
7. Hsu JT; Chang CH; An KN; Zobitz ME; Phimolsarnti R; Hugate RR; Lai KA: Effects of Screw Eccentricity on the Initial Stability of the Acetabular Cup. *Int Orthop*, Sept. 2006.
8. Hugate RR; Dickey ID; Phimolsamti R; Yaszemski M; Sim FH: Mechanical Effects of Partial Sacrectomy: When is Reconstruction Necessary? *Clin Orthop Relat Res*. 2006 450:82-8.
9. Hugate RR; O'Connor MI; Sim FH: Pelvic tumors. *In* Puri A, Agarwal MG (eds): *Current Concepts in Bone and Soft Tissue Tumors* [Chapter 18]. Arihant Book House, Parel, Mumbai, 2006, pp. 210-26.
10. Hugate RR; Sim FH: Pelvic reconstruction techniques. *Orthop Clin North Am* 37:85-99, 2006.
11. Dickey ID; Hugate RR; Fuchs B; Yaszemski M; Sim FH: Reconstruction After Total Sacrectomy: Early Experience with a New Surgical Technique. *Clin Orthop Relat Res*. 438:42-50, 2005.

12. Hugate RR; Sim F: Innovations in musculoskeletal oncology: 2004. J Orthop Sci.10:331-40, 2005.
13. Hugate RR; Pennypacker J; Saunders M; Juliano P: The Effects of Intratendinous and Retrocalcaneal Intrabursal Injections of Corticosteroid on the Biomechanical Properties of Rabbit Achilles Tendons. J Bone Joint Surg 86A:794-801, 2004.
14. Fayyazi AH; Hugate RR; Pennypacker J; Gelb DE; Ludwig SC: Accuracy of Computed Tomography in Assessing Thoracic Pedicle Screw Malposition. J Spinal Disord Tech 17:367-371, 2004.
15. Hugate RR; Sim FH; and Scully SP: Osseous Lesions of the Pre-Sacral Space. Sem Colon Rectal Surg 15: 41-54, 2004.
16. Hugate RR; Pellegrini VD Jr: Reactivation of Ancient Tuberculous Arthritis of the Hip Following Total Hip Arthroplasty: A Case Report. J Bone Joint Surg 84A:101-105, 2002.

Presentations:

1. “What’s New in Revision Hip replacement?” The Hip Symposium. Presbyterian/Saint Luke’s Hospital. Denver, Colorado. June 2011.
2. “Primary Total Hip Replacement.” The Hip Symposium. Presbyterian/Saint Luke’s Hospital. Denver, Colorado. June 2011.
3. “Military Orthopedics: The Afghanistan Experience”. Colonel Anthony Ballard, MD Memorial Conference. Denver, Colorado. May 2011.
4. “The Future of Amputee Care”. Colonel Anthony Ballard, MD Memorial Conference. Denver, Colorado. May 2011.
5. “What Does the Future Hold for the Leg Amputee?” First Annual Colonel Anthony Ballard, MD Memorial Conference – Lower Extremity Amputation. Denver, Colorado. October 3, 2009
6. “Reconstructive Surgery for the Arm Amputee” Skills for Life Upper Extremity Limb Loss Workshop. Denver, Colorado October 10, 2008
7. “Advances in the Management of Shoulder Tumors” The Rocky Mountain Shoulder and Elbow Society. Boulder, Colorado. July 20, 2007.
8. “Foam Metal Materials” The Penn State Department of Orthopedics Grand Rounds. The Penn State College of Medicine. Hershey, Pennsylvania. August 2007.

9. "Management of Metastatic Lesions" Annual Colorado Trauma Symposium, Hyatt Regency Tech Center. Denver, Colorado. March 16, 2007.
10. "Prosthetic Infections" Annual Winter Conference, The Denver Clinic for Extremities at Risk. Presbyterian/St. Luke's Medical Center. Denver, Colorado. December 4, 2006.
11. "Fixed Angle Screws versus Standard Screws in Acetabular Prosthesis Fixation: A Cadaveric Biomechanical Study" The Annual Meeting of the Western Orthopaedic Association. Santa Fe, New Mexico. October 11, 2006.
12. "Management of Extremity Tumors: Avoiding Pitfalls" The Annual Winter Conference, The Denver Clinic for Extremities at Risk. Presbyterian/St. Luke's Medical Center. Denver, Colorado. December 2, 2005.
13. "The Biomechanical Consequences of Partial Transverse Sacrectomy: When is Reconstruction Necessary?" Musculoskeletal Tumor Society. Nashville, Tennessee. May 2005.
14. "The Biomechanical Consequences of Partial Transverse Sacrectomy: When is Reconstruction Necessary?" Canadian Orthopaedic Assoc. Montreal, Canada. June 2005.
15. "Surgical Management of Conventional Grade I Chondrosarcoma of Long Bones" American Academy of Orthopaedic Surgeons. Washington DC. February 2005.
16. "Soft Tissue Attachment to Highly-porous Alumina Ceramic Foams: An *in vivo* Canine" Orthopaedic Research Society. Washington DC. February 2005.
17. "Soft Tissue Attachment to Highly-porous Alumina Ceramic Foams: An *in vivo* Canine" Society for Biomaterials Annual Meeting. Memphis, Tennessee. April 2005.
18. "Soft Tissue Attachment to Highly-porous Alumina Ceramic Foams: An *in vivo* Canine Study" Canadian Orthopaedic Association. Montreal, Canada. June 2005.
19. "Biopsy Principles and Techniques" Saturday Morning Conference. Mayo Graduate School of Medicine. Rochester, Minnesota. August 2004.
20. "Battlefield Orthopaedics" Hospital-wide Grand Rounds. Pennsylvania State College of Medicine. Hershey, Pennsylvania. May 2004.
21. "*In vivo* Mouse Model of Chondrosarcoma Metastasis" [poster presentation] Orthopaedic Research Society. San Francisco, California. March 2004.
22. "An Orthopaedic Surgeon's Experience in Iraq" Annual CME Conference. 5502nd US Army Hospital. Denver, Colorado. March 2004.
23. "A Comparison of the Effects of Intratendinous and Peritendinous Corticosteroid Injections on the Biomechanical Properties of Rabbit Achilles Tendon" American Academy of Orthopaedic Surgeons. San Francisco, California. March 2004.
24. "A Comparison of the Effects of Intratendinous and Peritendinous Corticosteroid Injections on the Biomechanical Properties of Rabbit Achilles Tendon" The Buchanon Lectures. Hershey, Pennsylvania. June 2003.

25. “Analgesia/Anesthesia in the Emergency Room for Orthopedic Surgeons” Orthopaedic Surgery Grand Rounds. Department of Orthopaedics & Rehabilitation. Pennsylvania State College of Medicine. Hershey, Pennsylvania. December 2002.
26. “A Comparison of the Effects of Intratendinous and Peritendinous Corticosteroid Injections on the Biomechanical Properties of Rabbit Achilles Tendon” The Society of Military Orthopaedic Surgeons (SOMOS). San Diego, California. December 2002.
27. “Quantification and Correlation of Bone Mineral Density in Tibial Bone Regenerate with Weight-bearing in Ilizarov Distraction Lengthening” [poster presentation]. Orthopaedic Trauma Association. Toronto, Ontario, Canada. October 2002.
28. “A Comparison of Three Techniques of Thoracic Pedicle Screw Placement” North American Spine Society. Montreal, Canada. October 2002.
29. “A Comparison of Three Techniques of Thoracic Pedicle Screw Placement” American Orthopaedic Association (AOA) Annual Resident Meeting. Memphis, Tennessee. March 2002.
30. “Bone Stimulation Devices” Orthopaedic Surgery Grand Rounds. Department of Orthopaedics & Rehabilitation. Pennsylvania State College of Medicine. Hershey, Pennsylvania. February 2002.
31. “A Comparison of Three Techniques of Thoracic Pedicle Screw Placement” [poster presentation]. American Academy of Orthopaedic Surgeons. Dallas, Texas. February 2002.